2

An ENQUIRY into the STRUCTURE OF THE HUMAN BODY,

Relative to its

SUPPOSED INFLUENCE ON THE MORALS of MANKIND.

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THE THIRD EDITION CORRECTED.

SPLEN *ridere* FACIT; COGIT *amare* JECUR.

——— *Sunt certa* PIACULA, *quæ Te*
Ter purè lecto poterunt recreare libello.
Invidus, iracundus, iners, vinoſus, amator,
Nemo adeo ferus eſt ut non mitеſcere poſſit,
Si modo culturæ patientem commodet aurem. HOR.

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M.DCC.LXXI.

BRITISH MUSEUM

TO HIS GRACE THE

DUKE OF GRAFTON

CHANCELLOR

OF THE

UNIVERSITY OF CAMBRIDGE.

MY LORD,

HAVING occaſion to reprint ſome Sheets, that have been twice favorably received, on a Subject which your GRACE has been pleaſed to honour in a very diſtinguiſhed manner, I could not omit the opportunity of thus publickly acknowledging my Obligations to the DUKE of GRAFTON.

May

May you long, My Lord, very long continue to preſide over this UNIVERSITY; ſo fruitful in Men of Abilities, that your GRACE can never want opportunities of indulging your favorite paſſion, that of countenancing, aſſiſting and rewarding Merit.

I am,

MY LORD,

Your GRACE's

moſt obliged

and obedient Servant,

CHARLES COLLIGNON.

Cambridge,
Jan. 24, 1771.

An ENQUIRY into the STRUCTURE OF THE HUMAN BODY, &c.

TO remove the objections that have been made againſt Providence by ſome, as if he had formed men of ſuch materials, as almoſt neceſſarily impelled them to illicit actions, is the deſign of the following ſheets. A deſign interwoven with the ſtudy, and demonſtration of the Structure of man; and therefore a very natural ſubject of the Author's reflections. And which it is hoped will be received with the uſual candor of this Seminary of Religion, and Seat of Literature.

But it will not be found diſadvantageous to the ſubject, to ſet out at firſt with ſome medical reaſoning. For it will by and by appear, that for want of duly attending to the relative fitneſs of things, not only the Preſcriber, but the Preacher may miſcarry:

And that this fitneſs conſidered with a view to the art of healing, will greatly clear up the ſubſequent reflections, on that of reforming.

The remedies which Phyſicians apply, have no innate, and abſolute qualities; but ſuch only as the nature of the parts which they touch, or can influence, will allow them to exert; ſo that a variation in the ſtructure, or condition of parts, will vary, and even ſometimes fruſtrate the effects of a medicine. And hence the claſſing of remedies which have no univerſal, or invariable effects, as it tempts many to profeſs a Science, which ſeems thus eaſy of attainment, ſo will often really diſtreſs the mind of a conſcientious preſcriber.

For how few among the many that offer their ſervices to the ſick, will at firſt keep clear of the ſpecious temptation, of attacking a diſorder by ſome privileged medicine, ſent to it in its ſuppoſed fortreſs? and with which aids, all Catalogues of both ſimple and compound remedies do too much abound. Whereas the attentive practitioner quickly finds, that there is a time for all things, neceſſary to be obſerved, to ſecure even a poſſibility of ſucceſs; and that a haſty

haſty determining of the diſeaſe, and an indiſcriminate application of the remedy, proves as little for his own reputation, as for his patient's advantage. For after all, what is this but to act the part of the *ſelf-conceited Nurſe*, that fatal character to the human race, who like Homer's Hero, though with other weapons :

— πολλας ιφθιμυς ψυχας αϊδι προϊαψεν.

and indeed were diſorders as eaſily known as named, and every appropriated remedy as certainly efficacious, as it is ſure to be applied by ſuch people, there would be no want of Phyſicians in the world, whoſe very buſineſs it is to make theſe neceſſary diſtinctions; but who are frequently not called upon, till fatal experience has convinced the Patient, that ſuch diſtinctions ought previouſly to have been made.

As remedies therefore have no neceſſary, ſelf-exiſting, independent virtues, conſidered abſtractedly from the Body to which they are applied; ſo the ſame is (in a great meaſure at leaſt) true of diſeaſes. I queſtion whether there can exiſt a morbific cauſe, which no Conſtitution, Sex, Age, Climate, Circumſtance or Condition is capable of e-

luding. At leaſt we know that thoſe moſt virulent deſtroyers of mankind, Plague and Poiſon, cannot claim this privilege: many eſcaping the former, though conſtantly converſing with the ſick; and many Animals feeding innocently on the latter, and ſometimes even the human race.

Nor is there any thing that need aſtoniſh us in all this. Man's Body is made of matter, as well as the reſt of the Creation, and while alive muſt be ſubject to the laws of matter, and motion; and every thing applied to it, whether as food, or phyſic, can act only by being put in motion, and communicating that motion to certain parts. And it is no more ſurpriſing that the ſame cauſe ſhould not operate equally on all bodies, than that the ſame degree of heat, ſhould not equally affect Gold and Lead.

If it be objected, that *Hippocrates* refers us to a Θειον τι, as the cauſe of ſome diſeaſes: we anſwer, that he did not mean thereby, ſuch an exertion of the divine power, as ſuſpended the known laws of nature in thoſe diſeaſes; in which ſenſe only, this could be any objection: but he either means to conceal

ceal his ignorance of the true cauſe of the diſeaſe, under this ſo ſpecious a ſuppoſition; or really ſtruck with the horrid appearance of ſome epileptic Patient, he fancyed it inflicted as a judgement, and ſo of divine original.

It appears then that a relative fitneſs of Body may be as neceſſary for the admiſſion of a Diſeaſe, as of a Remedy. And upon this relative fitneſs of cauſes and their effects, is built the whole of rational practice; and this knowledge poſſeſſed in greater, or leſs perfection, determines the ſeveral degrees of reputation poſſeſſed by different practitioners; and the total want of which, is the glaring badge of the audacious, and deſperate Quack.

There have not been wanting thoſe, who have thought this knowledge too extenſive for human nature to compaſs. While others, as though it were confined in too narrow bounds, have increaſed, inſtead of removing the difficulty. And both are in the wrong. To prove the firſt ſo, we need but to appeal to the number of ſuch, who have been recovered from long, and dangerous illneſſes, of which the nature was explained, the conſequences foreſeen, and

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the effects of the remedies foretold. Nor let it be objected that this ſucceſs muſt depend on certain, and repeated experience; for it is granted. But then we aſſert, that what was the labour of Ages, to our Predeceſſors in practice, becomes our own on eaſier terms. Namely, by the ſtudy of their works; and that the many hours they loſt in a miſtaken theory, for want of underſtanding the circulation of the blood, and in a miſtaken practice, for want of that knowledge, is ſo much time, and experience gained to their ſucceſſors.

But it is the ſecond ſort of men who multiply cauſes *ad infinitum*, who have contributed to this miſtaken notion; eſpecially ſuch as have created imaginary governors, or rather tyrants, ſhall I call them, of the human frame. If it were not attended with ſo much danger to the public, one could almoſt be diverted at the abſurd Rhapſodies of theſe writers. What a whimſical Triumvirate has *Dolæus* given us? *Microcoſmetor*, King of the Brain. *Cardimelech*, of the Heart. And *Gaſteranax* of the Abdomen! and what mad pranks does he not make theſe royal Perſonages play? ſpeaking of the *Phrenitis*, he

he thus deſcribes it? "*Quemadmodum Imperatoris illud monſtrum Nero, furibundo ardore Romanas ædes accendit, indeque maximas turbas excitavit, ſic, et hic noſter Microcoſmetor ſit Coſmetorges, i. e. Rex Iræ.*" A very improper ruler ſure for the rational part of Man. And indeed he ſometimes (we are told) quits the reins of government rather abruptly: "*Coſmetorges aliquando a ſeipſo vindictam poſcit, et tanquam Ajax, in proprium gladium incumbit.*" This is the caſe in melancholy. But in madneſs it is, that he ſhines ſupremely miſchievous, and ſcatters his fire-brands in ſport. "*Hoc in affectu (Mania) Microcoſmetor nobis eſt quaſi incendiarius, qui ſpiritus animales hominis accendit. Qui ita accenſi inſtar Vulpium Samſonicarum, percurrunt omnes foſſulas cerebri.*" Theſe and ſimilar effuſions of an overheated imagination to be met with in writers of this Stamp, would indeed extend the territories of medical knowledge beyond the reach of the life as well as the apprehenſion of man. But to return. —

Thus much I ſuppoſe will be allowed me, 1ſt, That God has created ſubſtances, Vegetable, Animal, and Mineral, with certain fitneſſes relative to the ſtate of Man's

Body, both in health and ſickneſs, and whereby the former may be preſerved, and the latter often removed. 2dly, That we are capable of diſcovering what theſe relations are, ſo as to apply them properly for the benefit of our fellow-creatures. 3dly, That if we apply them unſucceſsfully, through ignorance, or inattention, it no ways deſtroys the certainty on which much of the art of Phyſic is founded. And laſtly, That the changeable condition of our bodies, by varying the effects of the ſame application, though it may aſtoniſh heedleſs and unreflecting men, is a very natural effect, of an unavoidable cauſe. For whatever alters the tone of the Solids (by which is meant a certain degree of ſtrength and reſiſtance,) and deſtroys the proper craſis of the fluids, lays a foundation for, if not actually brings on a diſeaſe: while whatever has the power of bringing back theſe parts to the point, or nearly ſo, from whence they firſt deviated, lays a foundation for, if not abſolutely performs a cure. Thus far of the medical ſtate of things.

As there are no two bodies perhaps in the world, ſo exactly alike in their conſtruc-

tion,

tion, as to be affected in the ſame degree either by the force of external Objects, or the byaſs of internal reflection; ſo there muſt ever be a vaſt variety in the natural and innate propenſions of men: natural and innate perhaps, but not unalterable. At leaſt it is the deſign of the following obſervations to enquire, how far (the natural ſtructure of the body conſidered) man may ſtill be *free*; free from the greateſt tyranny, that of unreaſonable and impatient deſires! and how far the fatal force by which he is drawn aſide, may be imputed to ſome acquired imperfection in his ſtructure. And then if by any rule of conduct, we can prevent that alteration taking place, it will then be allowed, "that Providence has not formed men of ſuch materials, as neceſſarily impel them to illicit actions."

Man is compounded of Soul as well as of Body; and ſo compounded, that they frequently ſtruggle, and occaſionally conquer each other. Whatever be the mode of communication between theſe differing parts, or which ever firſt proves a traitor to the other by ſtubborn rebellion, inſtead of friendly intercourſe, the man is ſure to ſuf-

fer. Inſtances of this are the produce of every hour. The perceptions of the mind are at ſometimes preternaturally ſuſpended; at others, as painfully acute. In thoſe diſeaſes (for ſuch they are, however momentary) the Paſſions, how is the natural ſtrength of Reaſon and Judgement impaired! a word, nay, even a look ſhall have power to pull reaſon from her throne, and make the evening which began with the ſocial intercourſe of friends, terminate like the bloody contention of the *Centaurs* and *Lapithæ*. In other caſes, the tide of Life, inſtead of ſwelling into ſtorm, is almoſt congealed into ſtagnation; and the material part, inſtead of being agitated into furious motion, degenerates almoſt to lifeleſs Clay:

——*She pin'd in thought.*

She ſat like Patience on a Monument
Smiling at Grief——

The not unuſual effect of diſappointed hope, and ſilent ſorrow:—happy for the marble, if at laſt it can be brought to *weep*.

The nearer we come to underſtand the influence, and aſſiſtance which our bodies give to theſe, and the like unfortunate changes,

changes, the nearer we ſhall approach to the ſpring of our rational happineſs. For the Body is in general ordained to be the medium of our pains and pleaſures here below. And with reſpect to the joys ariſing from health, I ſhall not think I advance an improbability in aſſerting, that the regular government of our paſſions, is more preventive of the troubles, and even decays of the body, than the guarding againſt unfavourable ſeaſons, or unwholſome diet. At leaſt, that the duly tempered mind, will in general carry about with it ſo heroic a body, as bravely to bear up againſt rude attempts, and dangerous efforts for its deſtruction.

The unthinking, ſelf-contented peaſant, feeds on the coarſeſt fare, braves the unfriendly dews, and dares almoſt the whole artillery of Heaven, perhaps without an ail. While his maſter, formed in as rough a mould, and partaking of ſome indulgences, which the other lacks; yet wearied with anxious projects, and tormented with eager deſires for a ſplendid fortune, neither taſtes the refreſhing ſleep, nor enjoys the balmy health of his poor contented hind.—

Obſervations of this kind will appear of more extenſive conſequence, than at firſt ſight, perhaps, would eaſily be imagined. For beſides that, thoſe who pay the leaſt attention to the rational means of being well, are uſually the moſt querulous amongſt us; there are, who by an equally fatal extreme, are too ſollicitous to enjoy the happy ſtate when found;—who ſink *below* happineſs, by aſpiring to riſe *above* Health. A conſtant attention to any one particular point, is always prejudicial to man: but a reſtleſs anxiety about preſent health, is to poiſon at the fountain head, the ſource from whence ſuch bleſſings flow. Nay, ſo foreign is it to the voice of reaſon, and experience, that *Hippocrates* even adviſes ſome occaſional excurſions into mirthful jollity, as ſafer than the contracted path of unremitting regularity. However that may be, what we fear, we already in ſome degree feel: and ſome have brought themſelves to ſuch ſtrong feelings of imagination, and ſuch durable impreſſions of fancy, as no art has been capable at laſt of eraſing. A cruel refinement this, upon ſelf-deceit, when we have not only opened the fatal *Box*, but cannot ſhut it again ſo quick, as to confine *Hope*.

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But it is not deſigned to deny, that we are liable, without great care, to be byaſſed by ſome internal feelings. The Sects of Philoſophers probably firſt aroſe, from the conſtitutional diſpoſitions of their reſpective founders. It would not, perhaps, have been an eaſy attempt to have made *Cato* an *Epicurean*, or *Mark Anthony* a *Stoick*. Nor is it every one at this time of day, that can modeſtly doubt, or decently diſpute. The dull and phlegmatic cannot ſoar with *Plato*, or think with *Tully*. The impetuous, reap no laurels by a *Fabian* delay; nor the cautious poſt to conqueſt with a *Cæſar*'s ſpeed. But yet may we bend, what we cannot break; and prune the luxuriancies, of what we cannot eradicate; and ſo blend the jarring ingredients of a faulty frame, as to become happy to ourſelves, and profitable to others.

To underſtand which poſition, we muſt obſerve in a general way, that the ſubſtance of the body is twofold, which may be divided into Solids and Fluids; and experience warrants our aſſerting, that the one contains the other. Theſe fluids are originally in the form of Blood, and from whence every other fluid derives its origin. This red Blood

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is in perpetual motion, called its circulation, and ſo contrived, as very frequently to viſit every, the minuteſt part. The Solids are nouriſhed and maintained by the fluids; and thoſe fluids in their turn kept in motion by the Solids. Hence then to ſee how health, not only of body but mind, are under the influence of theſe, we muſt examine the Blood, and next thoſe Solids which have the principal ſhare in this Enquiry; and theſe are the fibres, and nerves. And then whatever may be the diſpoſition of man, examine what innovations we are capable of introducing, by the regulation of theſe particular parts.

Of

Of the Blood.

THAT fluid which is to contribute to Health and Happineſs muſt conſtantly and freely flow. *Vivitur ex motu*, is the firſt of Aphoriſms, and as comprehenſive as it is conciſe. And if the purity of even water, which is in its own nature elementary and unmixed, continues ſuch only in the *exercita curſu flumina*, what difficulties may we not think the purity of Blood expoſed to, which is a compound of ſuch diſcording principles? which flows in ſuch confined channels? which is liable to the dominion of ſo many tyrants? But yet man was never meant to be, nor ever really was the ſport of Fate or Fortune. That Idea and Expreſſion ſerved well enough to throw a cloud over ſome perplexities, and to cut the Gordian Knot of ſome difficulties which the Pagan Theology could not unravel; and has given riſe beſides to not inelegant deſcriptions in ſome of their Poets. And thus far it may be ſuffered to go; but not a ſtep farther. For in fact, ſuch is the nature of the fluid in queſtion, that Sobriety in every animal Indulgence, and Temperance in every

ry intellectual purſuit, will leave it in that ſtate for the moſt part, which is beſt calculated for the happineſs of the individual. For however the Souls of men agree in their more notorious Qualities of Immateriality, Immortality, *&c.* There is no neceſſity that there ſhould be, nor would there ariſe any advantage if there was, a ſtrict ſimilarity in their other diſpoſitions. On the contrary, the difference obſervable in the mode and manner of the Soul's exerciſing its functions in different men, is advantageous to the good of the whole; while all Mercy and Pity; or all Fortitude and Reſolution, would probably be ſubverſive of that univerſal ſcheme of Harmony, which was meant to ſpring from this apparent diſcord. And that men who are laying Siege to one and the ſame object of their Ambition, ſhould differ widely in the manner of carrying on their approaches, is ſo far from favouring the notion of Chance, and Fortune, that it proves in favour of ſuperintending Providence: for thus is there ſcope given to the unnumbered inhabitants of the globe, to purſue and even attain the deſired point, without treading on, or overturning their fellows in the Race.

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The Blood then is allowed to be a very material inſtrument, in the actions of the rational world; nay, ſo great an influence has this fluid been ſuppoſed to have upon our moral, as well as natural Life, that greatneſs of Soul and Sentiment, every noble and heroic act, are attributed almoſt proverbially to a particular degree of excellence in the blood, tranſmitted down to us from the veins of our Anceſtors; but whoſe ſtream flows not always pure, and untainted to the lateſt deſcendant of noble Stocks. And even other ſciences borrow the metaphor to expreſs high degrees of merit, ſuch as the great Orator's, "*Sanguis et Color Orationis.*"

Hippocrates talks of making men wiſer by Diet: and it has been ingeniouſly debated, how far the morals of men might be amended by altering their maſs of blood. The thought is not entirely chimerical, when confined within proper bounds. The heat, and other properties, which wine imparts to blood, are too notorious to need deſcription: and to which ſhameful metamorphoſis of the divine Image alludes probably that antient, but perhaps fabulous tradition,

 which

which tells, that the earlieſt cultivators of the Vine, were wont on that occaſion to make uſe of the emblematical manure of the dung of Lambs, and Lions, Monkeys, and Swine. And who knows not that thoſe Productions, which were meant to ſupport our Life, and refreſh our Nature, may, by ſtudied refinements be converted into fuel for illicit flames? and that ſomething even worſe than diſeaſe and death, may be the fatal conſequence of an unlimited indulgence at the Epicurean's Board?

It would ſeem then, that to ſecure an unruffled calm in the breaſt of man, and to maintain the empire of reaſon, againſt the attack of lawleſs paſſion; ſome attention muſt be paid to the courſe, and quality of this fluid. Nor can any one be at a loſs, how to conduct himſelf in this important undertaking, while Experience is at once an Avenger, and a Guide. It is a very trite, but at the ſame time, injudicious enquiry, what is, in general *wholſome:* And which *Van Swieten* not unaptly compares, to aſking, whether the Wind is fair, without ſpecifying to what Port we are bound. It would be giving uſeleſs, as well as abſtract-

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ed advice, to ſay, that the Blood muſt be kept temperate, and fluxile. Every man of ſenſe knows when he riſes refreſhed from Table; and when he retires to reſt a chearful, and a rational Being. That meaſure is to be always his Rule of Action, whatever relation it bears to that of other men: ſo again, muſt each man determine for himſelf, how far to hurry, or expend his fluids by exerciſe. Some men have ſet out with mirth, and chearfulneſs, who have returned peeviſh, and diſcontented, becauſe they returned too much fatigued: And to remove that uneaſineſs, have indulged in exceſs of mirth and wine. Every Conſtitution cannot equally bear to ride, much leſs in the moſt rapid manner: And ſome can even enjoy Health, and Reſt together. I have been the more particular on this head, becauſe rough Exerciſe is the darling Idol of the *Engliſh:* And Youth, fired by examples from the Greek and Roman Games, are apt to engage too far in manly ſports, not promiſcuouſly beneficial to *All.*

Every one, I ſuppoſe, is well enough acquainted with the celebrated fiction of *Medea*'s propoſal to reſtore *Æſon* to youth and

vigor, by letting out his old, and effete blood, and filling his veins with better; or in *Ovid*'s own words,

——— *Veterem haurire cruorem*
Ut repleat vacuas juvenili Sanguine Venas.

This fiction was realiſed about the middle of the laſt Century. Dr. *Lower* at *Oxford*, having made ſeveral experiments by injecting different liquors into the veins of animals, came at length to ſuſpect, that the blood of one animal, might ſafely be injected into the veins of another: He made the experiment with ſucceſs, and at laſt brought it to ſuch perfection, as eaſily to convey the Blood from the divided Artery of an animal, into the Vein of a human Subject; a proper quantity of blood being firſt taken away, to make room. Lamb's Blood was generally preferred for the purpoſe.

The *Tranſfuſion* of the blood was tried upon the human Subject, in more than one inſtance, both in *France* and *England*; and ſeemingly with good ſucceſs. But as all ſtriking diſcoveries ſeem to throw a ſhade of diſgrace on thoſe, who have not been ſo happy as to have any ſhare therein; and there are always people weak enough, to fear

new, and bold ſtrokes in Phyſic; ſo this, as carrying with it ſomething uncommonly bold, and adventurous, ſoon gave way to the attacks of the multitude. A Woman was perſuaded by ſome of the faculty in *France*, who were the warmeſt in oppoſing this practice, to inſiſt on having it performed the third time on her huſband, who had been recovered by it from Madneſs twice before. The man died after the Operation; but upon a civil inquiry, it appeared he had been previouſly poiſoned. The thing then became the object of public regulation, and was fettered with ſuch reſtrictions, as to prevent its making any farther progreſs.

A proper regard for the welfare of mankind, rendered our countrymen, very wary, and cautious in their trials, ſo as, (if I miſtake not,) to refuſe an offer made them by the government, of having the bodies of Malefactors, to make experiments upon. This tenderneſs would rather increaſe, than eradicate any prejudices which the novelty of the undertaking naturally occaſioned; and thus the affair ended at home, with leſs noiſe indeed, but with more reputation than in *France*.

Though

Though many advantages were propoſed, as the conſequence of this transfuſion of the blood, the moſt ſpecious was that which *Lower* mentions; namely to reſtore blood quickly to thoſe, who in Battle, or by any other Accident, had loſt ſo large a quantity of it, that the remainder was inſufficient to preſerve life, or turn the aliment, into chyle. But whether ſo weak a ſtate of body, is capable of admitting, and circulating a ſudden reinforcement of Blood, may I think be juſtly doubted.—The other, and next moſt material enquiry is, whether by putting in a quantity of good blood, the remaining bad blood can be amended, or will not rather itſelf be changed, and vitiated by degrees. This is certain, that if the *Viſcera* have contracted any ſtain, it will prove a conſtant ſource of infection to whatever blood you put in. And therefore *Lower* diſſuades the Practice in ſuch caſes, quoting the well known remark of the Poet,

Sincerum eſt niſi vas, quodcunque infundis
aceſcit.

This Scheme, as very extraordinary in itſelf, and not very foreign to the plan of amend-

ing

ing men's morals, by altering their Blood, I thought not improper to mention.

But I would in the laſt place recommend Reaſon, ſtrengthened by Religion, as the moſt efficacious Inſtrument, to curb painful, and dangerous commotions of the blood. And how great and ſenſible the pleaſures are which wait on this greateſt (though uſually moſt ſilent) of Conqueſts, will be beſt known to thoſe, who by avoiding every vicious indulgence, and cultivating every noble, and worthy Sentiment, endeavour to diſcharge their duty, in the moſt acceptable manner, to their Maker, their Country, and their Friend.

And that a devout frame of mind, does greatly affect the material functions of the Body, might be collected (if other proofs could not be found) from that tyrannical efficacy which falſe Religion, and its Conſequences exert on its many deluded followers. Dejection of mind beginning; Amazement and Horror continuing; and (as we have too often ſeen, and even in theſe our days) Diſtraction terminating the melancholy Scene.

Of

Of the Fibres.

THE next parts concerned in this enquiry, are the Threads, or Fibres, which by their various form, and different force of Coheſion, conſtitute the Solids of the Body: That is, form the coats of the Veſſels, the ſubſtance of the Muſcles, and the firmneſs of the Bones; three very eſſential parts to the healthy exiſtence of Man. The Fibres have a natural elaſticity, as may be obſerved by the receding of their extremities, in a gaping wound: beſides which they are endued with what Dr. *Nicholls* calls their *Vis reſtitutiva*, or a power of gradually returning to their proper length, after having been forcibly overſtretched, as is ſeen after Strains, Delivery of the Fœtus, *&c.* Beſides which they are ſuppoſed to be always in a certain degree of Tenſion, which is therefore called their *Tone*; whether different from the elaſticity above mentioned, is not neceſſary at preſent to enquire. It is probably this ſtate of the Fibres, which gives that ſtrength and firmneſs of the fleſh which is perceptible in Health, and on this ſide the depredations of Age. Authors go

ſtill

ſtill farther, and ſuppoſe a kind of *Tonic Motion*, or a power of keeping up a proper reſiſtance to the force of the pervading fluids, and a ſalutary preſſure on ſuch as flow within their influence. When theſe are conſidered as making the coats of the veſſels, they become of more apparent importance in their influence over health; but it will not be difficult to underſtand, how on every account they bear a relation to the preſent Enquiry.

It is neceſſary that our Fibres ſhould be in ſuch a ſtate, as readily to admit the nutritious particles of our food; yet neither ſo weak as to be overdiſtended with the force of the circulating fluids, or ſo tenſe as to be unapt to receive them. In the one caſe, the part withers, in the other, it ſwells. We have inſtances of this, both in a natural and preternatural ſtate of the body. In Sleep, there is ſo manifeſt a relaxation of the Fibres, that during this ſtate of inſenſibility, the body becomes more plump, ſo as that Ligatures, if cloſe, are apt to be painful. Whence the cuſtom with many, to unbutton the Collar at going to reſt. The Colour is alſo at this time more florid;

and uſually a greater degree of perſpiration, and in ſome ſubjects, a plentiful ſweat breaks out. A very oppoſite ſtate of the Fibres to this, namely, a tenſeneſs of them, is the conſequence of the winter's cold: when the Skin ſhrivels up, and the parts are remarkably contracted; and during which, Perſpiration being diſappointed of an exit at the Pores, makes a ſucceſsful effort to eſcape by the Kidneys; whence the difference of that evacuation, in the different ſeaſons of the year. In a preternatural ſtate of the body, this viciſſitude in the ſtate of the Fibres, is likewiſe obſervable, but never more ſo than in the paroxyſms of an intermitting fever: when in the cold fit, we look pale, ſhrink and tremble; in the hot fit, heat and colour return, and a profuſe Sweat commonly finiſhes the attack for that time. From what has been ſaid, we may ſee the propriety of the term *relaxation*, when applied in a metaphorical ſenſe. For though meant in general of ſuch employments, or amuſements, as were ſuppoſed to unbend, and refreſh the mind, yet in their conſequences, may be literally applied to a relaxation of the body. As in fact, a long and cloſe attention of the mind, has a

tendency

tendency to dry up and overbrace the body. Perhaps Providence has thus given a check to that inſatiable thirſt of Knowledge which is often prejudicial, either by feeding our pride, or by deſtroying our health? and has thus made ſocial intercourſe, as abſolutely neceſſary, as it is natural, and decent among indigent fellow-creatures? this at leaſt we may ſay, that we are hereby cautioned to guard againſt all peeviſh diſcontent, and moroſeneſs, by a moderation in our purſuits of intellectual improvement. Since the wiſeſt, are not always either the happieſt or the worthieſt of men.

A hereditary Debility, and Laxity, in theſe original *Stamina*, conſtitute a weak and lax ſtate of the Solids; as a contrary extreme, or too great a degree of elaſtic tenſion, produces a conſtitutional diſpoſition to an oppoſite claſs of diſorders, namely, inflammatory. We ſee this doctrine proved *a poſteriori*, by the different effects of hot, and cold baths, the former evidently relaxing, the latter bracing up, and ſtrengthening the Fibres. Inſomuch that ſome northern barbarous Nations, are ſaid to plunge their Children as ſoon as born,

into the River, that they may try their natural, and give them an additional ſtrength; no ways repining, when by this method they are ſoon killed; as thinking a conſtitution, that cannot bear this trial, incapable of ever becoming advantageous to its Country, or comfortable to itſelf. On the other hand, in proportion as a ſoft, and ſhameful effeminateneſs got ground among that (once hardy people) the *Romans*, the uſe of perfumed ointments, and warm baths, became more frequent, and irreproachable.

Something like theſe effects, our bodies will naturally feel, from that conſtant univerſal Bath we live in, the Air. And as this is ſometimes hotter and drier, at other times warmer, and moiſter, and thus in all the poſſible viciſſitudes of our uncertain *Engliſh* atmoſphere, we cannot wonder at finding ſo great a fluctuation in our health. There is a month, famous to a Proverb among us, for inſpiring gloomy thoughts, and deſperate actions. If we extend all this one ſtep farther from the caſual influence of a day, to the more permanent one of a whole climate, we may in part account for the various make, and ſtature of men, the difference

ence of their parts, and geniuſes, and in ſome meaſure for their virtues, and vices, as far at leaſt as they flow from an indulgence of conſtitutional proneneſs. *Aſiatic* Luxury, and *German* Intemperance, have been uſually aſcribed to ſuch a cauſe. And hence there ſeems an elegant propriety in *Monteſquieu*'s obſervation, that all Laws are or ſhould be calculated, with a relative view to the influence of the Climate, on the manners, and diſpoſitions of the people.

The fluids of our bodies, and eſpecially the Blood, will ſuffer in their health, and texture, from a vitious ſtate of the Solids. And hence it is, that the paſſions of the mind, however they may be firſt in fault, do ſo inſtantaneouſly ſpread the miſchief over the material part of us; and which miſchief muſt ever be in ſome proportion, to the force of reſiſtance, which in ſuch caſes the Solids and Fluids are capable of exerting. Hence as the Paſſions meet with a ſtronger, or weaker frame, muſt they rage in greater, or leſs degrees; become ſubſervient to the true enjoyment, or perhaps only to the amuſement of the mind. How great the difference, even in the conſtitution

of

of lawful paſſions, is elegantly and graphically deſcribed by a celebrated Divine in the inſtance of Joy. " *Joy* (ſays he) was not " then, that which now often uſurps the " name; that trivial, vaniſhing, ſuperficial " thing, that only gilds the apprehenſion, and " plays upon the ſurface of the ſoul. A ſudden blaze of the ſpirits; the exultation of " a tickled fancy, or pleaſed appetite. Joy, " was then a maſculine, and a ſevere thing: " the recreation of the Judgment, the jubilee " of Reaſon." And thus will it ever be in all the other rational affections of the ſoul, where a proper cultivation of the mind, and a prudent regulation of the body, are happily met together in the ſame man. Of ſuch importance is it, by what means we may, to adapt the body to receive, and reflect the ſplendor of the ſoul.

But farther — The growth of Animals as well as of Vegetables, is the conſequence of a gradual unfolding and expanſion of their veſſels; by a ſlow, and progreſſive inſinuation of fluids, adapted to their reſpective diameters, until being ſtretched by the utmoſt bounds allotted them by Providence, they reach their ſtate of perfection, or in other

other words arrive at their full growth. This gradual unfolding ſeems to depend on the progreſſive, and percuſſive force of the circulating fluids; which force of circulation, elongating the Fibres, ſeems in ſome conſtitutions too great, in proportion to the force of their lateral extenſion; or in other words, the animal grows too faſt, and thus the Fibres are not nouriſhed in all parts equally. And therefore it is, we ſee thoſe premature growths generally attended with a great weakneſs of the blood-veſſels, eſpecially thoſe of the Lungs. From this account we may underſtand, why children who diſcover an uncommon penetration, and ſtrength of genius too early, are ſo often ſhort lived: becauſe a great part of thoſe ſubtle fluids, which ſhould give ſtrength and maturity to the body, are called off to become ſubſervient to the operations of the mind.—*Quintilian*, who had juſt experienced this cruel ſtroke, by loſing a Son in whom were the promiſes of early and uncommon merit, makes the ſame reflection; but argues with a kind of ſullen impiety on the cauſe, as though through the Envy of the Gods. "*Ut prorſus* (ſays he) *poſſit hinc eſſe tanti fulminis metus, quod obſer-*

obſervatum fere eſt, celerius occidere feſtinatam maturitatem; et eſſe, neſcio quam, quæ ſpes tantas decerpat, invidiam; ne videlicet ultra quam homini datum eſt, noſtra provehantur.

Whatever therefore conduces to defraud the body of its nouriſhment, while in a growing expanding ſtate; as too early an application to ſerious employments; or which when grown, enervates and debilitates the vigor of its fibres, as ſhameful eaſe, and unremitting ſloth: Or on the contrary, what heats and dries, and winds up the man to an offenſive degree of tenſion, as exceſs of liquor, and improper labour, has a manifeſt tendency to render the body an uneaſy companion, or rather a boſom traitor to the ſoul.

Of the Nerves.

WE come now to the moſt difficult part of our Subject. A kind of boundleſs ocean; a deep unfathomable abyſs. The Nerves are thoſe (almoſt tyrannical) inſtruments of our ſenſations, without which we can have no bodily perceptions, and by the means of which we can ſuffer ſuch variety of pains. So that the ingenious author of the *Neuropathia*, had reaſon to exclaim,

O fortunatos nimium, ſua ſi bona nôrint,
Queis cerebrum et nervi nativo robore pollent,
Spirituumque latex dives fluit, ac generoſus!

For the different ſtate of nerves in different men, is no inconſiderable ſource of that variety of characters to be met with in the world. 'Tis theſe that, in a great degree, form the man, whom no threats can move, and no dangers affright. That ſupply the flowing ſtreams of oratory; or keep back almoſt breath, as well as words; that rouſe to madneſs; melt to ſoftneſs, or fix to inſenſibility.—But let me not be miſunderſtood, as if I meant hereby to make man a meer machine. For if Reaſon were capable of

holding her peace at ſuch an aſſertion, Religion would certainly cry out. But this only is to be underſtood by it; that as the Nerves are by the conſtruction of our bodies, made the neceſſary mediums of our pains and pleaſures; and as the hinges on which the moſt of human actions turn, are the purſuing of what we wiſh, and avoiding of what we dread; it cannot be denied, but that our actions muſt be byaſſed by the probable conſequences of them, which we paint to ourſelves: and yet more ſo, if perchance we have taſted of the bitter pill, and can quote experience in our favour. Thus can I conceive a man fired with an honeſt, or (if you pleaſe) even an enthuſiaſtic love for his country, without daring to burn with *Scævola*, or bleed with *Regulus*. As I can (on the other hand) that the exquiſite torments, deviſed in ſome *Chriſtian* countries, ſhould ſometimes not be able even to extort confeſſion. But as I cannot allow human nature to ſupport itſelf under exquiſite torments, without internal aids, which the world cannot give; ſo can I ſcarce conceive this to have been the caſe with thoſe enthuſiaſtic *Romans*, who courted ſuch deliberate deaths; and I muſt abſolutely refuſe it to horrid

horrid Regicides, in every age, who muſt ever ſtain the annals of their Country.

It will eaſily be collected from hence, that I ſuſpect there muſt be a ſtrength, and ability to bear bodily torture, before a man can attempt the character, or arrive at the reward of a ſuffering *Hero*; and that many Heathens have probably been indebted for their reputation in this kind of conflict, to ſome natural, or acquired inſenſibility of the *Nerves*.

Nay, invention has been called in, to give artificial fortitude, where (even corrupted nature) could not keep the field. I mean on thoſe ſhocking, and barbarous occaſions, when loud, and noiſy inſtruments were forced to be employed, to drown the piercing ſhrieks of innocent children, thrown to fry in agonies, to the honour of the DEVIL.

There are doubtleſs, many good and upright men in the world; and in a degree, beyond what a meer heathen could ever have conceived. And yet (who with all theſe ſuperior advantages) would not venture to promiſe for themſelves what the Poet (as ſuch) has beautifully done:

Si fractus illabatur orbis,
Impavidum ferient ruinæ.

Nay, whom Storms, and Thunder, and ſimilar alarms, do too often, as it were, *conſtitutionally* affright.

But be it remembered, that theſe reflections, are not meant to extend to thoſe ſacred Characters, that braved every Danger, and felt every Torture, that the rage of Perſecution could invent. Theſe had ſupernatural aſſiſtances to carry them through this, their fiery trial: and therefore no arguments can be drawn from thence to invalidate the force of the preſent reaſoning.

But to come yet nearer to the ſubject of this Enquiry. The Nerves, like the Fibres, and other Solids, are capable of being improved in what (I may call) their fortitude; and of being degraded from that height of firmneſs they were formed to poſſeſs.

If the Nerves of the female are delicate, weak, and eaſily put into hurries; yet by moderate exerciſe, and many prudent aids, they may be brought to ſhare, even the fatigues of men. And on the other hand, Man by diſhoneſt ſloth, and diſreputable indul-

indulgence, may enervate himſelf even to the weakneſs of a child. That the ſtrength of Nerves is variable in the ſame man, at different times, needs no better proof, than the different force of reſolution he is capable of exerting, when under the influence of a chearful flow of ſpirits, or a ſtupid inſenſibility and ſtagnation of mind.

The pallid conſumer of midnight oil, though his mind be ſtored with the choiceſt precepts of philoſophy, and enriched with the experience of ages, yet finds himſelf apt to ſtart, and tremble at a ſudden noiſe. And the hurry of imagination, and ſolemn ſtillneſs of night, has conjured up many more Spectres than that in *Brutus*'s tent. Debauchery, and exceſs even in weak liquors, can ſhatter this neceſſary part of our ſyſtem, to a degree that will imitate, and even anticipate the tremulous unſteadineſs of age.

But there is another ſource of evils, in which our Nerves ſeem to be officiouſly buſy, which bring on us very ſenſible troubles, and are thought ſcarce poſſible to be removed. And theſe are the *Antipathies*, and abhorrences of our nature. Some harſh,

harſh, grating ſounds, throw us into diſorders which Reaſon cannot correct; and ſome ſenſations ſeem ſo conſtitutionally repugnant to our quiet, that we ſuffer, without (as it would ſeem) even attempting to contend. Something however might ſurely be tried, to obviate this misfortune; (for ſuch it is in a greater, or leſs degree to moſt) and that by uſing every external art to fortify our Nerves, as Temperance, Bathing, and Exerciſe; and by avoiding every kind of folly, that tends to relax their Vigor. Beſides which, let us try, whether here, as in moſt other caſes, familiarity will not breed contempt; a contempt of that plague, which is ſuch, not in its own nature, but in our unhappy miſapprehenſions. It is not perhaps the Spider, or the Cat, which we fear on their own account; but that we have formed an imaginary ſtate of ſuffering, and horror, as the neceſſary conſequence of ſuch creatures touching us. Could we once be perſuaded to let them approach us, with reſolution, we ſhould ſoon come to touch them without pain. At leaſt it is a very notorious fact, that nervous averſions are the moſt frequent, in perſons of the livelieſt imagination.

It ſeems therefore no unneceſſary piece of advice upon the whole, but applicable enough to the preſent Subject, that as we ſhould not often venture, in a moral view, to the utmoſt bounds of lawful pleaſure; ſo in a phyſical one, we ſhould not give the utmoſt ſcope to the powers of pleaſing ſenſation. If the nerves of the palate be too intenſely, as well as frequently incited to miniſter to the gratification of luxurious appetite, what can we expect will be at laſt the conſequence, but diſappointment in reliſhing the very wholſomeſt of food? The abuſe of odoriferous ſcents, and exquiſite perfumes, are found very prejudicial to ſome conſtitutions, and particularly to the functions of the Brain. And to ſuch who have impaired their ſcent by ſuch refinements, it is in vain to talk of the cheap and natural fragrancies of blooming meads, and new mown hay.

But the greateſt variety in the ſtructure of this part of our frame, is perhaps with relation to the effect of ſound. If by muſick be meant that Sound, which pleaſes the ear, and charms the ſoul, we may include almoſt all mankind in the muſical claſs. Even the *Warhoop* of Indians, and the funereal

nereal ululation of one part of the world, is melody to ſome ears; to which the dying ſtrains of a thrilling Italian would probably be an intolerable pain. As Philoſophers and Legiſlatures viewed this ſcience in different lights, they applauded, or condemned it accordingly. Some baniſhed it as corrupting the morals; others modified it, as regulating the paſſions of the ſubject. The uſe of it in war, is certainly productive of good conſequences, by exciting to martial ardor, whether that was originally the deſign of it, or not. Upon the whole, taking it in the extenſive ſenſe, of pleaſing ſound, or cadence, muſick is the greateſt bleſſing of mankind, becauſe the moſt univerſal. The feathered race, the whiſtling winds, the pleaſing declaimer, the chearful artiſan, the ſpecific ſounds of all vocal creation, cannot but furniſh out at all times, and to all men, a proportion of this indulgence. And perhaps this enjoyed in moderation, by attuning the paſſions, and calming any little tendency to irregularity in the blood, may be the moſt wholſome indulgence that man can partake of here below.

Of

Of the Temperaments, and Ages of Man. Of the force of Habits; and ſuppoſed Decay of all Nature.

I Proceed now to ſome other difficulties, which muſt be removed, before we can reſcue man out of the hands of all thoſe tyrants, to whoſe power, *Opinion* ſo readily gives him up. And the firſt is, the prevailing force of *Temperament*; the *Sanguine*, the *Choleric*, the *Frigid*, and the *Melancholic*. Now Authors have laid down rules for the actions, and diſpoſitions of men under theſe ſuppoſed influences, not only differing from each other, but ſuch as do not invariably agree with the experience of the world: not unlike to the *Spleen* being made the ſeat of *Mirth*, by the Ancients; the nurſery of ſerious *Sullenneſs* by the Moderns. And indeed there has always been a labeur of affectation, in drawing compariſons between (what probably) have no juſt or neceſſary ſimilitude, the *Humours* of the body, (as they are called,) and *Elements* of the material world. For even, ſuppoſing the melancholy man *earthy*, and

therefore *ſtable* in all his reſolves: the *Choleric* man poſſeſſing *fire*, which may be ſmothered for a time, but not extinguiſhed; the *Frigid* man to be a reſervoir of *watery, cold affections*; how can the *blood* and *air* be brought into any rational ſimilitude? and yet under the dominion of theſe elementary influences is the free agency of man to operate, according to theſe philoſophers. But they go farther yet, and not only ſuppoſe theſe humours thus inherent in the man, but that they look out, and proclaim themſelves externally, in the features, the form, and the colour of the Body. And I ſuppoſe that Providence itſelf, would hardly have been allowed capable, by theſe men, of putting, or preſerving an amiable Soul, in the *Zoilus* of a *Martial*, or the *Therſites* of a *Homer*. And yet it is almoſt an eſtabliſhed truth, at leaſt (it is a benevolent error,) that, in general, the misfortunes, and defects of the body, are amply recompenſed by the ſuperiority of the mind. But to give up even all this; and to allow the *Phyſiognomiſts* to be men of ſenſe and penetration, even thus there ariſes no fatal impulſe from hence; at leaſt if we will believe the judgment, and truſt to the example of a *Socrates*.

And

And as this method of judging of men, has a tendency to the moſt illiberal of failings, prejudice; and to the moſt inexcuſable of prejudices, thoſe formed haſtily, and at firſt ſight, it cannot be too much diſcountenanced by all ranks of men.

Next to the *Temperaments*, we are attacked with the *Ages* of Man, with the indiſputable variety of *Youth*, *Manhood*, and *Old Age*; for *Infancy* may fairly be left out of the Queſtion. But ſhall we give without diſtinction folly, and almoſt madneſs to Youth; prudence, rare as the phœnix to Manhood; and a churliſh froſt of mind, as well as of body to Old Age? we ſhould in this caſe determine, with neither ſenſe, nor judgment, againſt the ſuggeſtions of candor, and the unerring voice of truth. Let the two extremes, as we may call them, of Youth and Age, be allowed their accuſtomed propenſities. Let Youth be warm with hope, and eagerly expect beyond the poſſibility of full ſatisfaction. 'Tis the error commonly of an unreflecting mind; not the tyranny of an untameable body. Let Age be waſpiſh, diſcontented and ſevere; 'tis generally the fruit of an unfair com-

pariſon between the preſent, and the paſt. It forgets all the long continued, and repeated bleſſings it has enjoyed, in a protracted, and proſperous length of days, to reflect on, and envy thoſe indulgences, which are calculated for younger breaſts. At leaſt, eager expectation, and over-bearing ſelfiſhneſs, with many other unbecoming follies, are confined to no particular ſeaſon of life; but found as well in thoſe whoſe blood creeps in lazy mood, as where it riots in briſk, and lively flow. It cannot be denied, but that there is a difference in the texture of both Solids, and Fluids, in Youth, and Age; in the morning bloom, or ſolemn evening of life. But either their influence over man is inconſiderable, or may be brought into ſubjection by wiſdom, and goodneſs. At leaſt, the world has known, and I truſt ever will know, many young men made more amiable by blending prudence with vivacity; and many old ones truly venerable by mixing chearfulneſs with wiſdom.

Some attention is due on occaſion of this enquiry, to the prevalent influence of *Cuſtom*, and which is ſo exceedingly great, as to

to be allowed the force of a ſecond nature. This, as it diſplays itſelf in the ſtrength of evil habits, the fruit of the irregular diſpoſitions of the heart, none I ſuppoſe are inconſiderate enough to go about to defend. As the miſchief here is not only ſeen by many, but uſually felt by all; by all at leaſt, who are within the reach of their extenſive, and baneful influence. But the excuſe for this will moſt probably be laid on the body, that frail part of us, that has now perhaps been indulged (though doubtleſs for wonderful good reaſons at firſt) to ſuch a degree, as has warped it beyond a poſſibility of being brought right: and attempts of which kind ſo far from regulating the manners, would (it is generally taken for granted) deſtroy the man.

Now acknowledging, what is inconteſtably true, that the obligations of cuſtom are moſt fatally binding, and the fetters of habit, perhaps the heavieſt we can wear, yet ſhall we therefore ſubmit tamely to the yoke, and not rather the more vigorouſly labour till we have ſhook it off? I ſpeak of thoſe habits, and cuſtoms of the body, which draw along with them the faculties,

and

and diſpoſitions of the mind. For as to thoſe habitual indulgences of a lighter ſort, while they amuſe without diſguſt, and entertain without detriment, they are at leaſt innocent, if not in ſome degree uſeful. But there are certainly many of a fatal tendency.

There are perchance who arrive not to move, nay too often alas, not to think (at leaſt to any purpoſe) till repeated draughts have rouzed, and wound up, as it were, the faculties of their ſoul. Whoſe trembling limbs owe their momentary firmneſs, to the deceitful aids, which liquor ſupplies. And can we ſafely ſay to ſuch unhappy victims of error, that they are mad if they purſue their courſe? might they not with ſome ſhew of reaſon reply, that if they did not purſue it, they ſhould come to be mad indeed? But to reſcue even ſuch, if not too far gone, from a worſe than *Egyptian* bondage, let them try whether their fibres, nerves, and ſtrength, may not yet be ſaved, by very gradually diminiſhing, what contributes to their ruin. For thus the ſubtraction like the addition, by being gradual, becomes ſcarce ſenſible: Since *Habit*, like a complex mathe-

mathematical ſcheme, flowed originally from a point; which inſenſibly became a line, which unfortunately became a curve, which finally became a difficulty not eaſily to be unravelled.

To any other (and there will always be many importunate ſuitors at the gate of *Senſe)* let us ſtill find a cauſe for delay; and what better excuſe for not receiving ſuch dangerous gueſts, than urgent buſineſs; that is conſtant, and uſeful employment. The ſtory of *Penelope*, whether fiction or not, affords us a very beautiful leſſon; that we ſhould prudently diſſemble, and artfully deal with thoſe enemies, whom we dare not attack in open combat. The body both can, and moſt inevitably will be won over to the intereſts of the enemy, unleſs by ſome fineſſe, ſome unexpected ſtratagem, we carry it to the ſtandard which Reaſon ſets up, or ſave it under the pointed cannon of rational employment.

Another head of enquiry on this occaſion ariſes from a ſtrange (and with many) a favourite ſuppoſition, that the *World*, and all *Creation* grows *old* and *infirm*; and if ſo,

it is no wonder that the ſtrength and vigor of man's body ſhould come in for its ſhare of this decay. And indeed great and uncommon pains have been laid out upon this hypotheſis, which if true, would not affect the argument, but which may eaſily be ſhewn to be falſe. For in the firſt caſe, let us ſuppoſe for a while, that the frame of the early inhabitants of the world, was greatly different from that of the preſent. The race of giants is certainly extinct, and the age of man, is indiſputably curtailed. Be it ſo: but will it follow from theſe, or ſimilar obſervations, that ſuch a ſtructure of the bodies of thoſe ancient inhabitants of the earth, was a defence to their ſacred tenant, the ſoul? That the imaginary purity of its elements, and beautiful harmony of its texture, never interfered with the functions of religion, or attempted to throw a cloud over the emanations of reaſon? This we certainly know, that *Adam* fell; and we may well believe that *He* had as pure a Soul, in as fair a Body, as any meer man ever poſſeſſed. Yet he knew what a defection from innocence meant; and experienced (ſome at leaſt) of the frailties of his poſterity. Even murder, the

firſt,

firſt, and fouleſt of crimes, was comimitted by one of his immediate deſcendants. Here then ſeems to be no room for the *Soul*'s Apology, as if the *Body*, which its Maker had given it for a *Companion*, had *beguiled* it, and therefore it had *ſinned*. And in fact, not only bodies of the pureſt texture on earth, have been united to ſinning Souls; but ſuperior Beings, unembodied Spirits, even *glorious Angels* fell.

But in the ſecond place, to what ſtrange abſurdities does not the opinion tend, which ſuppoſes this continued degradation of Body to be real? The argument, if it proves any thing, proves too much; and thus is deſtructive of the conſequences it is brought to favour. The conſtant deviation of man, and his virtue on this plan, from the earlieſt ages, to the preſent time, muſt have arrived to ſuch a degree of infirmity of body, and impurity of ſoul, as would long ſince have rendered the world, a habitation only fit for devils, or diabolic minds in human ſhape.

But it is well known, that this opinion, however diligently urged, has been both re-

ſolutely attacked, and as ſucceſsfully refuted. Philoſophers might at firſt be inclined to give it countenance, as it afforded much matter for elegant ſpeculation. And ſome few perhaps might have haſtily adopted it, in conſequence of, but a partial view of things; an examination of but a few links, in the prodigious chain of nature. But whoever *planted*, or whatever *watered*, it was the *Corruption* of mankind, that gave it *increaſe*; that it might catch hold of its *twigs*, when it feared to *ſink* into condemnation: or that it might be *hid* behind its *leaves*, when the voice of *Conſcience* called to it, to appear *naked*.

Of

Of Education, and Faſhion.

A Very conſiderable preſervative againſt both bodily, and mental Ills, is without doubt *a good Education.* But education like honour, has a very vague ſignification at this time of day; and like it too in another ſenſe, muſt be relative to the ſubject to which it is applied. And if (as indeed we muſt) we call in *Faſhion* to aſſiſt in ſettling the definition, how very whimſical, and variable will the import of the expreſſion be?

Education in the abſtract, means but feeding the body, while in the other extreme of definition, it extends to forming the mind. And yet very ſeldom perhaps is the body fed, or the mind formed, with that degree of prudence, which has a tendency to give health to the one, or happineſs to the other. And then the fault in general will be ſure to be thrown on ſome fatal propenſity in our conſtitutional frame.

But into what ſtrange deviations from deſigned perfection, may not our bodies be

brought, when faſhion has unlimited authority to mould, to turn, and twiſt them at her will? —The prudent *Gardiner*, keeps off, or invites the Sun, as he thinks moſt conducive to bring his plants to perfection. —The tender bloſſoms, which are to be followed by much pleaſant fruit, are the objects of his conſtant, and unwearied care. —The *Huſbandman* ſees with concern what ſtill (he cannot any way prevent) that drought or moiſture which will endanger his crop. But unthinking man, in higher ſtations, dares ſubmit the greater hopes, the hopes of his poſterity, to influences more fatal than any Seaſon, to viciſſitudes more changeable than any Climate.

For whatever be the form, or how tender ſoever the texture of the moſt amiable part of the creation, the fair Sex; yet who can overlook, in an enquiry of this nature, that degree of expoſure, which an attention to their health, ſhould in many of them, neceſſarily preclude? for to go more, or leſs *naked*, more or leſs decently covered, depends not in our days, on the ſtate of ſeaſons, or periods of age; but on the *undiſtinguiſhing* edicts of faſhion.

From

From the ſame unhappy ſource ſprung the cuſtom (at preſent indeed reverſed) of binding in unyielding bands, that part of the body, which nature, by diſcontinuing the incloſure of the ribs, ſeems to have evidently pointed out, as deſigned for perfect freedom.

If we look into the terrors and apprehenſions of this Sex, how many (too often) and unneceſſary do they ſeem? Proceeding it may be from judging erroneouſly of what is really becoming; or the effect of an education, for which they deſerve perhaps to be pitied. Let it be this, or whatever elſe you pleaſe, ſo that it be not miſtaken for the conſequence of ſuch a frame of body, that it is impoſſible for it not to be conſtantly, *trembling* moſt *exceedingly*.

Yet equally great would the error be on the other hand, if that ſex which was formed to pleaſe by natural ſoftneſs, and to charm by native elegance, was to be by rude, and rough education, hardened as it were, into man. This would be a change, in every ſenſe to their detriment; not only in the eſtimation of the world, but in the article of their own health and well being.

But

But theſe are not the only inconveniencies to be pointed out, in the enquiry we have undertaken. For to what, but to the prevalence of being led by cuſtom, rather than by reaſon, ſhall we attribute that want of attention to the earlier part of life, when human nature is almoſt blindly, and indiſcriminately ſubmitted to one invariable rule of management? the puny offspring of the ſons of debauchery, as well as the ſtout productions of the unenervated peaſant, muſt alike, if faſhion leads, tread with naked feet, the cold, the wet, or the rugged path. And if by theſe, or any (yet to be invented errors) an unhappy ſtate of body, ſhall be for ever entailed on ſuch innocent ſufferers, how can we with propriety blame the Author of mercies; the benevolent Deſigner of Man's happineſs?

To lay down then one general rule for rational education; let it ever be made relative to the ſex, the ſituation, the temper, and profeſſion of the party. And let us vary our method of building up human nature, in proportion to the height, it may be expected to arrive at; and the ſituation, in which it is likely to be placed. Thus would many painful conflicts of mind be ſpared;

ſpared; and many dangerous propenſities of body, avoided.

If the Soldier and the Plowman require to be ſteeled and hardened; the Gentleman, however, and Scholar need not be aſhamed of *Senſibility*. Let thoſe who from their employment muſt face danger, and frequently encounter difficulties, be well acquainted with the nature, and appearances of both. But thoſe who are never likely to come into this ſituation, may well be ſpared the painful impreſſion on their minds; need not be made to ſtruggle with fancied terrors, and to fight the windmills of imagination.

As far as conſtitutional proneneſs is really apparent, let it by all means be kept under; at no rate encouraged, or inflamed. And this attempt if ſet on foot in the ductile age, when pliant nature almoſt bends to *Inſtruction's* hand, will be found a matter of no great difficulty. The carrying the eye of attention, in more advanced ſtates, to ſcenes and proſpects widely differing from what the mind would brood upon within, has been often practiſed with ſucceſs.

ſucceſs. A tendency to amorous ſoftneſs, and *Sybaritic* luxury, may not improbably be overcome by the ſeverer purſuits of mathematical inveſtigations: while too thoughtful a mind, and one of too ſerious a turn, muſt walk abroad over ſmiling nature, and expatiate among the brighteſt ſcenes of laughing creation.

If *Nature* in the material world, has provided every poiſon with its proper antidote, (which ſeems probable, and agreeable to the goodneſs of Providence) we cannot think the more important health of the mind has been leſs attended to; much leſs entirely neglected. So far otherways, that there is ample proviſion made to obviate every inconvenience that Man can reaſonably complain of. But ſome men, alas are too indolent to *ſeek*; and ſome even too abandoned to *deſire* a Cure.

Of the Paſſions.

WHAT has not been ſaid on the ſubject of the *Paſſions*, by authors of almoſt every denomination? *ſeverely* by the Moraliſt: *fancifully* by the Declaimer: *elegantly* by the Man of Senſe, and polite literature. But ſhall I venture to ſuſpect, that in general, more amuſement than improvement has ſprung from theſe their labours? ſhall I be allowed to hint, that the *cynic* frown of ſome moral teachers, has terrified from the attention due to their good deſign; and the too *metaphorical* imagery of others, impoſed *flowers* for *fruit* on *undiſtinguiſhing* readers?

The *Heart*, like the ſhop of *Vulcan*, has been ſuppoſed the *Forge* of the human paſſions. The *Blood*, the *glowing flame* that was neceſſary to the operation; and I know not what tenſeneſs, or other mode of ſtructure in the fibres, the *hammers* that were to compleat the work.

Or if it is more neceſſary to raiſe a *Storm*, the *blood* can even *hiſs* and *ferment*; the *Solids*

vibrate with unremitting fury; *Palinurus* be daſhed from the *helm*; and man's frail *Bark* be driven on the pointed rocks of *ruin.*

Or on the contrary, let us ſee Man becalmed, when his *milky* blood flows delicately through his *ſilken* veins. His Solids, like *Cleopatra's ſilver oars*, ſtriking gently on the *placid* ſtream. — Or laſtly, ſhall *Man* be a chemical elaboratory, where ſorrow is *diſtilling*; towering thoughts *ſublimating*; patience *evaporating*; and hope *precipitating?*

Have not theſe alluſive deſcriptions a tendency to ſtrengthen the errors we are ſtriving to remove? Do they not ſeem to make it as impoſſible for man to reſiſt the force of his paſſions, as for the leafy grove to withſtand the boiſterous violence of *Æolus*; or the trembling earth to ſubdue, and conquer the *undermining* flames of an *Ætna?*

However that may be, to eradicate the Paſſions is the attempt of folly; but to bring them under proper regulation, is the triumph of wiſdom, and wiſdom of the trueſt ſort; which inclines us to the paths of duty, in order to put us into the poſſeſſi-

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on of happineſs; and in which undertaking if the Body does not co-operate, it may at leaſt be prevented from hindering the work.

Providence like an indulgent parent, has not only endued us with an appetite to the purſuit of happineſs, but has laid the ſcene of it within our reach; nay, planted it within our breaſts. But we muſt not give ſo important, and ſacred an appellation, to the being maſters of thoſe gaudy trifles, or unneceſſary incumbrances, for which ſome men toil to the deſtruction of their health; and even ſtrive to the detriment of their reputation. For in this purſuit, every *nerve* muſt be ſtrained; and the *blood* be put into, and kept in conſtant agitation: And if the bodily powers ſink under ſuch a load, they fail but as every other power does, when exerted beyond its natural abilities.

Would men object any thing to the purpoſe here, they ſhould advance, that many are ſo unfortunately framed, that they cannot help being *avaritious*, *ambitious*, or *cruel*. They ſhould inſiſt that *Alexander* was *impelled* to *run* about the world: and that it was *Nature* made him burſt in tears, when

there was nothing left to conquer. — That *Nero*, who ſhed ſuch torrents of his ſubjects' blood, and refined on every ſpecies of cruelty, was *conſtitutionally* hurried on, by inſuperable neceſſity, to look with compoſure, and even ſmile with rapture, at ſcenes of barbarity, which nature ſhrinks to name. And yet, this *ſame Nero* could once (as we are told) when a ſentence of condemnation was brought to him to ſign, "*pathetically* lament, *that ever he had been taught to write.*" So true is it, that our evil habits are uſually acquired, not born with us; and our little tendencies, if they become formidable, the work of our own hands.

What is there then in the nature, or ſtructure of Man, as ſuch, that is incompatible with ſerenity of Soul? inconſiſtent with ſuch a compoſure of mind, as to render him neither inſenſible to pleaſure, nor too impatient of pain? ſuffering neither this to depreſs, or that to elate him, beyond what his own reaſon can approve. How can the body tyrannically fix the force of evil, in oppoſition to the influence of that well-tempered mind, which reduces great evils to leſſer ones, and ſmall ones to none

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at all? which ſuperior to the blandiſhments of flattery, makes a man intimately acquainted with himſelf; and proof againſt the attacks of malice, courteous, and affable to all about him? which gives a laſting reliſh to every enjoyment; exalts the moſt trifling circumſtance into amuſement; and confirms his ſatisfactions, by ſtamping them with the approbation of *reaſon*.

It is true, if we view men at certain times, when turbulent with rage, and fired with frenzy; glowing with revenge, or ſickning with envy; ſwelling with falſe hope, or turning pale with diſappointment, we ſhall ſee the body in *agitations* indeed. But it is then apparently trembling under the *iron rod*, with which the imperial tyrant, *Paſſion* governs. Though at length perhaps, by too long cuſtom it becomes ſo tame and helpleſs, as to yield its obedience at the fainteſt call. And then indeed muſt be allowed to operate fatally, and influence too effectually the actions of the man.

To lay down rules for the regulation of the mind, or to give a chart to point the quickſands which intercept us in our voyage

to

to Content, may not be thought perhaps to fall properly within my plan. However that may be, it ſeems ſo very intimately connected with the Subject, that I cannot entirely diſmiſs it, without a few obſervations on that head.

Now, without examining with the ingenious Madam *Dacier*, whether all the paſſions are reducible to *Love* and *Envy*; or with *Horace*, whether "*Nil admirari*," be a remedy for every mental diſeaſe; I would recommend as an Antidote to the poiſon of diſquiet, which lurks moſt probably at the root of every turbulent paſſion, the prudent ſubmitting of ourſelves, to what may be called, if properly underſtood, *Neceſſity*. By which is not meant ſuch an oppoſition to our wills, as is unſurmountable by human power (for then there is no room to contend) but ſuch a firm conjunction of unfavourable circumſtances, as to overcome, or even oppoſe, would be productive of greater evils to ourſelves, and the ſyſtem to which we are allied, than a patient acquieſcence under them: where a victory would border nearly on the ruins of a deſeat. In this inſtance copying the ſubtle-

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ty of *Mahomet*, who determined with great prudence to go to that mountain, which he knew in the nature of things, could never come to *him*; and by this lucky expedient at once palliated his diſappointment, and obviated his diſgrace.

But however the wiſdom of ſuch a ſtep, may be granted by ſome, many doubtleſs will object to the great difficulty which attends it. Let the following method therefore be laid down as conducive to enable us to overcome the ſeeming reluctance of our nature, to the hard terms propoſed.

As in the natural world we diſtinguiſh the heavenly bodies into their real, and apparent magnitudes, ſo in the moral world, let us diſtinguiſh between the real, and apparent magnitudes of thoſe objects, which have a tendency to throw our frames into confuſion. There is a moral good, and evil inſeparably attached to the nature of things; and relative to ourſelves, and the ſyſtem of which we make a part. But this when viewed through a deceitful medium, will appear to be greater, or nearer than it really is. What illuſive phantoms of greatneſs did not

Alexander

Alexander view through the magnifying glaſs of *Ambition?* And the deſtroyer of the *Temple* of *Diana*, through the falſe one of *Fame?*

The method then propoſed, is to aim at viewing every thing, in a fair, and favourable light, or at leaſt to cheat ourſelves (if cheat ourſelves we muſt) into a comfortable, and happy ſituation. The well known ſtory of *Procruſtes* may be improved to this purpoſe. Every thing was ſoon made ſubſervient to the meaſure of his will. The redundancy of unhappy victims were lopped off from ſome; while additional torture extended others. What was his iron bed, ſhould metaphorically be our downy couch: that is, by ſubmitting our wills to the rule and ſquare, of what is with reſpect to us, in the place of unavoidable neceſſity, we ſhould purchaſe laſting peace, and pleaſure. We contentedly ſuffer the change of the ſeaſons, becauſe we prudently provide againſt their influence; and what a thick coat is againſt the cold of *December Snow*, a reſolute mind ſhould be againſt the nipping froſts of *Adverſity*.

In a word,—are we diſappointed in our moſt

moſt eager and earneſt expectations; let us ceaſe to hope for what we cannot obtain, and learn to ſeek what is within our reach. Do we pant, and toil after a flying fortune? is not content ſitting at our door? are our arms too ſhort to encompaſs the globe? the waſte of competency perhaps may come within our graſp. Thus may we ever elude the bitter draught of diſappointment, and carry about with us an Antidote to its intoxicating poiſon. So wiſely did the *Stoics* judge, that they have left this remarkable character of their *ſummè Sapiens*, "that he can never be *diſappointed*, becauſe whatever he ſees *neceſſary* for him, he makes it his *Choice*."

How unſatisfactory the attainment often proves, of what we ſo eagerly admire, the experience of multitudes can teſtify. If *Power* be the Idol we worſhip, 'tis a dangerous poſſeſſion: if *Learning*, a conditional advantage: if *Riches*, an uncertain good. *Sejanus* loſt his life; *Galileo* his liberty; and *Crœſus* was near loſing *both*. To be too anxious therefore in the purſuit of theſe, is ſomething more than *Folly*. Suppoſe indeed the world ſhould condeſcend to value us, in propor-

tion to ſuch accidental *appendages*, we have little reaſon to be proud of their good opinion, who praiſe, and condemn with ſo little diſcretion. And one thing at leaſt we ſhould do well to remember, that every degree of pre-eminence we have over our fellow-creatures, may be compared to a *ſhining* light, which neceſſarily places the faults, and failings of its owner in a more *conſpicuous* point of view.

CON-

CONCLUSION.

UPON the whole then, and to look back on the ſcenes we have paſſed, in this little journey over the body of Man.—What have we found in thoſe three capital parts of our compoſition, the *Blood*, the *Fibres*, and the *Nerves*, which can juſtly be deemed the artificers of our *Miſery*; or the unavoidable corrupters of our *Innocence?* Have we not on the contrary ſeen the aſſertion verified, "*that God hath made man upright; but they have ſought out many inventions.*" Have we not ſeen that he often yields himſelf a willing captive to the dominion of favourite paſſions? that he knowingly ſupplies his enemy, with ſtrength and ammunition, to be employed againſt himſelf? And that he firſt diſmiſſes his *Guards*, and then complains of inability to ward off *danger?* Or if by more prudent conduct, and ſerious reflection, he keeps clear of ſuch a ſhameful overthrow; yet does he not ſuffer the force of *Example*, of *Cuſtom*, or of *Faſhion*, to miſlead him into great inconveniences? So that if we will confeſs the truth, we ſhall be forced to own, that we bring

on ourſelves much the greateſt part of thoſe miſchiefs, which we are ſo fond of attributing to the influence of our *Bodies*.

A *hereditary*, *weak*, and *crazy* conſtitution, incapable of much benefit from Reaſon and Regimen, would be the ſtrongeſt objection that could be brought. But even that will almoſt vaniſh by conſidering, that 'tis the lot of but very few, compared with all creation; and that even ſuch by the aſſiſtance of *Temperance* and *Religion*, have ſtruggled with, and almoſt conquered theſe great infirmities: not with a *Stoic Apathy*, denying *pain*; but with a *Chriſtian Fortitude*, refuſing to *murmur*.

FINIS.

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